

Amendments to the Claims:

Following is a listing of all claims in the present application, which listing supersedes all previously presented claims:

Listing of Claims:

1.-6. (Canceled)

7. (Original) A method of fabricating an air-gap type film bulk acoustic resonator (FBAR), comprising:

forming a resonance part on a first substrate, the forming of the resonance part including sequentially providing a first dielectric layer, a first electrode, a piezoelectric layer, and a second electrode on the first substrate;

forming a cavity in a second substrate;

securing the first substrate with the second substrate so that the resonance part is located in the cavity;

packaging including removing the first substrate after the securing; and

exposing part of the first and second electrodes to form a pad by removing corresponding portions of the first dielectric layer part of the resonance part.

8. (Original) The method as claimed in claim 7, wherein the forming of the resonant part includes:

depositing the first dielectric layer on the first substrate;

selectively depositing the first electrode on the first dielectric layer;

selectively depositing the piezoelectric layer on the first electrode and the first dielectric layer; and

selectively depositing the second electrode on the first electrode, the first dielectric layer and the piezoelectric layer.

9. (Original) The method as claimed in claim 7, wherein the forming of the cavity includes:

depositing a second dielectric layer on the second substrate;
exposing part of the second substrate surface by removing part of the second dielectric layer; and
etching the exposed part of the second substrate to form the cavity.

10. (Original) The method as claimed in claim 9, wherein the securing of the first and second substrates includes contacting the first substrate and the second dielectric layer on the second substrate.

11. (Original) The method as claimed in claim 7, further comprising selectively depositing a conductive layer on a bottom surface of the cavity before the securing.

12. (Original) The method as claimed in claim 7, further comprising integrating a specified element on a bottom surface of the cavity before the securing.

13. (Original) The method as claimed in claim 12, wherein the element includes at least one of a passive element and an active element.

14. (Original) The method as claimed in claim 7, further comprising tuning a resonance frequency by controlling a thickness of the first dielectric layer in the resonance part.

15. (Original) The method as claimed in claim 7, wherein the securing includes bonding using one of adhesive bonding and eutectic bonding.

16. (Original) The method as claimed in claim 7, wherein the packaging includes etching the first substrate to a predetermined thickness.

17. (Original) The method as claimed in claim 16, wherein the packaging includes:
selectively depositing a third dielectric layer on a third substrate leaving an exposed part of the third substrate;
forming another cavity by etching the exposed part of the third substrate; and
securing the third substrate with the first substrate at the third dielectric layer.

18.-23. (Canceled)

24. (Original) A method of fabricating a single-chip duplexer using an air-gap type film bulk acoustic resonator (FBAR) filter, comprising:

forming a first substrate part having first and second resonance parts formed at predetermined intervals on a surface of a first substrate;

forming a second substrate part including

forming first and second cavities at the predetermined intervals on a second

substrate, and

forming an isolation part between the first and second cavities;

securing the first substrate part and the second substrate part so that the isolation part is located between the first and second resonance parts and the first and second resonance parts are over the first and second cavities, respectively; and

removing the first substrate of the first substrate part after the securing.

25. (Original) The method as claimed in claim 24, wherein the forming of the first substrate part includes:

selectively depositing a first dielectric layer on the first substrate to form first and second dielectric portions;

depositing first and second lower electrodes on part of the first and second dielectric portions, respectively;

forming first and second piezoelectric layers on part of the first and second lower electrodes, respectively; and

depositing first and second upper electrodes on the piezoelectric layers and on part of the first and second dielectric portions not having the first and second lower electrodes, respectively.

26. (Original) The method as claimed in claim 24, wherein the forming of the second substrate part includes:

selectively depositing a second dielectric layer on the second substrate forming first and second dielectric portions spaced apart from each other at a distance corresponding to a distance

between the first and second resonance parts; and

etching the second substrate without the second dielectric layer to form the first and second cavities.

27. (Original) The method as claimed in claim 24, wherein the forming of the second substrate further includes:

forming a capacitor having two conductive layers and a dielectric layer between the two conductive layers; and

forming a coil of another conductive layer on an upper part of the capacitor to form an inductor.

28. (Original) The method as claimed in claim 24, wherein the forming of the second substrate part further includes:

depositing a first conductive layer on part of the second dielectric layer located between the first and second cavities;

depositing a third dielectric layer on part of the first conductive layer and on the second dielectric layer;

depositing a second conductive layer on the third dielectric layer over the first conductive layer and on part of the third dielectric layer not over the first conductive layer;

coating an insulating film on part of the second conductive layer and on part of the third dielectric layer; and

depositing a third conductive layer including forming a coil on exposed first and second conductive layers and on part of the insulating film.

29. (Original) The method as claimed in claim 24, further comprising forming a pad by removing part of the first dielectric layer to expose lower and upper electrodes of the first and second resonance parts.

30. (Original) The method as claimed in claim 24, wherein the securing includes bonding the first and second substrate parts using one of adhesive bonding and eutectic bonding.

31. (Original) The method as claimed in claim 24, wherein at least two resonance parts are formed on the first substrate, and at least two cavities are formed on the second substrate, a number of resonance parts being equal to a number of cavities.